

A Pandemic Comparison: COVID-19 and The 1918 Flu

This Is the Future of the Pandemic

Covid-19 isn't going away soon. Two recent studies mapped out the possible shapes of its trajectory.

By Siobhan Roberts, New York Times
May 8, 2020

By now we know — contrary to false predictions — that the novel coronavirus will be with us for a rather long time.

“Exactly how long remains to be seen,” said Marc Lipsitch, an infectious disease epidemiologist at Harvard’s T.H. Chan School of Public Health. “It’s going to be a matter of managing it over months to a couple of years. It’s not a matter of getting past the peak, as some people seem to believe.”

A single round of social distancing — closing schools and workplaces, limiting the sizes of gatherings, lockdowns of varying intensities and durations — will not be sufficient in the long term.

In the interest of managing our expectations and governing ourselves accordingly, it might be helpful, for our pandemic state of mind, to envision this predicament — existentially, at least — as a soliton wave: a wave that just keeps rolling and rolling, carrying on under its own power for a great distance.

The Scottish engineer and naval architect John Scott Russell first spotted a soliton in 1834 as it traveled along the Union Canal. He followed on horseback and, as he wrote in his “Report on Waves,” overtook it rolling along at about eight miles an hour, at thirty feet long and a foot or so in height. “Its height gradually diminished, and after a chase of one or two miles I lost it in the windings of the channel.”

The pandemic wave, similarly, will be with us for the foreseeable future before it diminishes. But, depending on one’s geographic location and the policies in place, it will exhibit variegated dimensions and dynamics traveling through time and space.

“There is an analogy between weather forecasting and disease modeling,” Dr. Lipsitch said. Both, he noted, are simple mathematical descriptions of how a system works: drawing upon physics and chemistry in the case of meteorology; and on behavior, virology and epidemiology in the case of infectious-disease modeling. Of course, he said, “we can’t change the weather.” But we can change the course of the pandemic — with our behavior, by balancing and coordinating psychological, sociological, economic and political factors.

Dr. Lipsitch is a co-author of two recent analyses — one from the Center for Infectious Disease Research and Policy at the University of Minnesota, the other from the Chan School published in Science — that describe a variety of shapes the pandemic wave might take in the coming months.

Scenario No. 1 depicts an initial wave of cases — the current one — followed by a consistently bumpy ride of “peaks and valleys” that will gradually diminish over a year or two.

Scenario No. 2 supposes that the current wave will be followed by a larger “fall peak,” or perhaps a winter peak, with subsequent smaller waves thereafter, similar to what transpired during the 1918-1919 flu pandemic.

Scenario No. 3 shows an intense spring peak followed by a “slow burn” with less-pronounced ups and downs.

The authors conclude that whichever reality materializes (assuming ongoing mitigation measures, as we await a vaccine), “we must be prepared for at least another 18 to 24 months of significant Covid-19 activity, with hot spots popping up periodically in diverse geographic areas.”

What is clear overall is that a one-time social distancing effort will not be sufficient to control the epidemic in the long term, and that it will take a long time to reach herd immunity.

309,696
Covid-19
cases
in NY



Cities That Went All In on Social Distancing in 1918 Emerged Stronger for It

By Emily Badger and Quoctrung Bui, New York Times
April 3, 2020

St. Paul remained largely open into November, with its leaders confident they had the epidemic under control. Fully three weeks after Minneapolis — with The St. Paul Pioneer Press pleading “In Heaven’s Name Do Something!” — St. Paul ordered sweeping closures, too.

Both cities, relative to the worst-hit parts of the country, escaped steep death tolls. But the mortality rate in Minneapolis was considerably lower than in St. Paul. And as researchers today look back on those interventions, it appears the economy in Minneapolis emerged stronger, too.

The comparison between the Twin Cities is instructive today not just for what it tells us about the health benefits of social distancing, but also for what it says about any economic costs that come with it.

In 1918, cities that committed earlier and longer to interventions like banning public gatherings and closing schools didn’t fare worse for disrupting their economies for longer. Many of those cities actually had relatively larger gains in manufacturing employment, manufacturing output and bank assets in 1919 and into the next few years, according to a new study from researchers at the Federal Reserve and M.I.T. This is particularly clear among Western cities that had more time to prepare for a pandemic that hit the East Coast first.

For cities with the most aggressive interventions, there’s no trade-off apparent in this data between saving lives and hurting the economy.

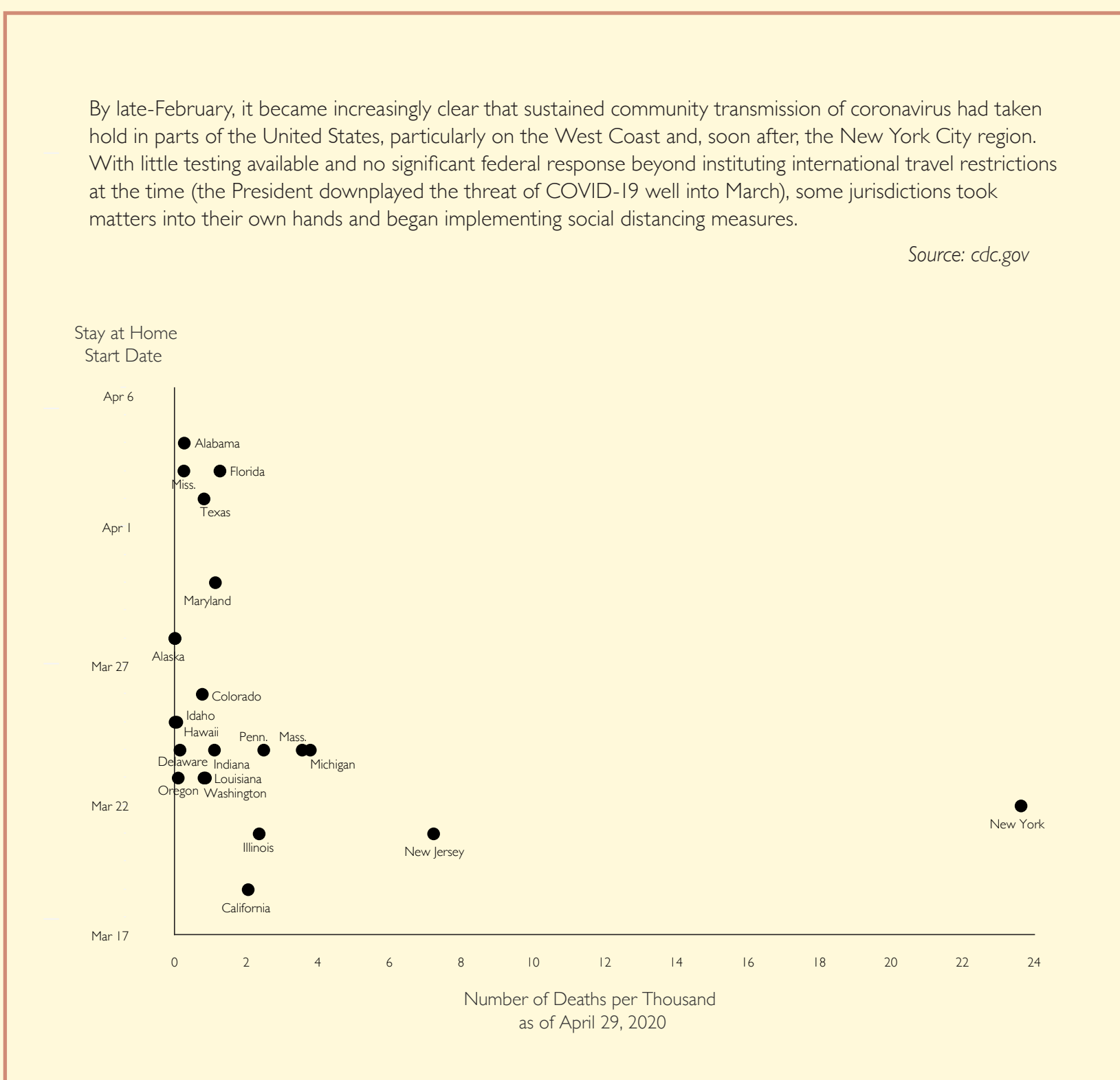
“If anything, these places do better,” said Emil Verner, an economist at M.I.T., who wrote the paper with Sergio Correia and Stephan Luck of the Fed.

The reasons this would be true aren’t particularly hard to understand. But the same logic has been questioned today by elected officials and commentators who fear that social distancing in response to the coronavirus may not be worth the costs in shuttered businesses and unprecedented unemployment rolls.

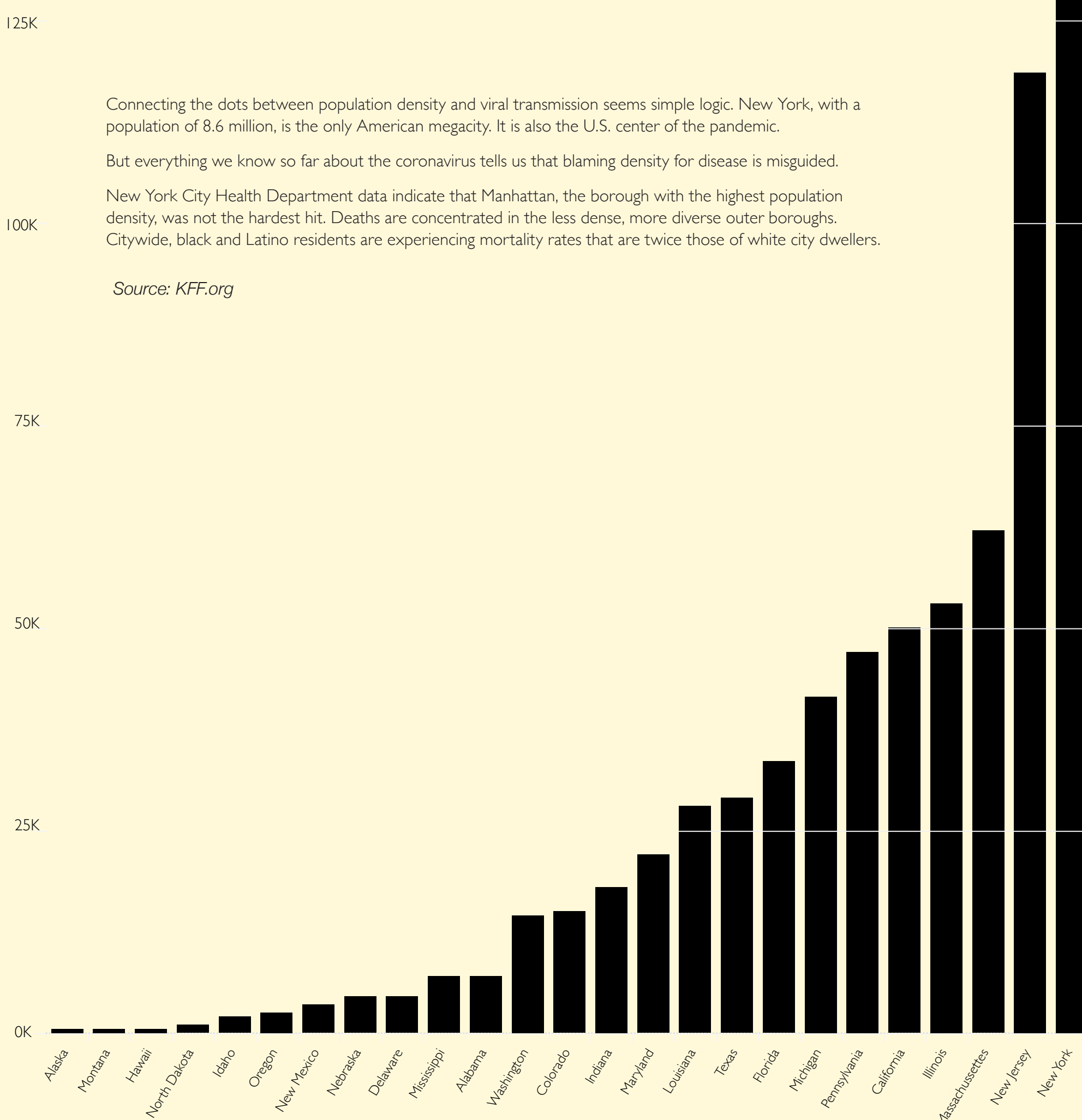
“The pandemic itself is just so destructive to the economy, so any policy that you can use that directly mitigates the severity of the pandemic can actually be beneficial for the economy,” Mr. Verner said. Stricter interventions “actually make it safer for economic activity to resume, and they mitigate the negative impact of the pandemic itself on mortality.”

This second point was particularly important in 1918, because that pandemic devastated prime-working-age adults.

“It was a very gendered economy where the breadwinners were almost exclusively men,” said Howard Markel, who directs the Center for the History of Medicine at the University of Michigan. “The fewer men that died who could then go and pursue their work once it ended meant that those families were better off than those that lost that breadwinner, who would then become potentially destitute.”



Number of Cases, as of April 28.



Given the exponential growth of an unmitigated influenza pandemic, it is reasonable to expect that the timing of interventions will be among the most critical factors. Such expectations and biological realities are consistent with observations of the 1918 pandemic, when rapid public health response time was a critical factor in the successful application of nonpharmaceutical interventions.